Summary Report of Management Information Reporting Schedules and Related Data:

for English as a Second Language, Technology Integration Funding and Special Education

October 2001

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This document is intended primarily for:
System and school administrators
Alberta Learning managers

And may be of interest to:
Individuals interested in school improvement

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Executive Summary

The Management Information Reporting Schedules (MIRS) requested information from school boards about the following programs in 1999/2000:

- English as a Second Language (ESL) for Canadian-born students and for non Canadian-born students (Schedule 8)
- Technology Integration Funding (TIF) (Schedule 12)
- Special Education (Schedule 9)

The purpose of this annual information gathering process is to allow Alberta Learning to refine the analysis of timely information about the implementation and impact of its programs. Alberta Learning uses the information from the MIRS to report to government and the public, to make program adjustments that may be needed, to plan the nature and funding of future programs and to consider more efficient models of program evaluation.

The 1999/2000 reporting represented the second year that MIRS were used to collect program evaluation data based on student outcomes. The lack of controls built into the project made it difficult to monitor the validity and reliability of the data. As MIRS data is basic and preliminary and provides a limited basis to judge the impact of a project on student learning, data used in this analysis was provided from two additional sources:

- The School Reporting Branch provided student population data and financial data.
- Results for students who did write Provincial Achievement Tests (PATs) are provided by the Learner Assessment Branch. (Achievement results for students with special needs who did not write PATs and for all ESL students are provided by jurisdictions using the MIR Schedules.)

English as a Second Language Results

- Preliminary data reported on MIR Schedule 8 reflect reported gains from 1998/1999 to 1999/2000 for both Canadian-born and non Canadian-born ESL students.

Technology Integration Funding

- Technology Integration Funding is continuing to improve student access to information technology in schools.

Special Education Results

- The analysis of the relationship between funding and student results, as reported by MIRS, and for students with special needs who wrote the PATs did not reveal significant positive relationships. The analysis did point to the need for more refined student data through a revised provincial Student Information System.

- The comparison of student results as measured by PATs and by the MIR Schedule 9 for students with mild/moderate disabilities who did not write the PATs reveals a small but important minority of grade 3, 6 and 9 students (7700/125,000 or 6.2%) who are not progressing satisfactorily. This phenomenon warrants further study to identify best practices for meeting the learning needs of these students.
- The high degree of variation in the incidence of students with mild/moderate disabilities between jurisdictions suggests the need for a study into the underlying reasons for this variation.

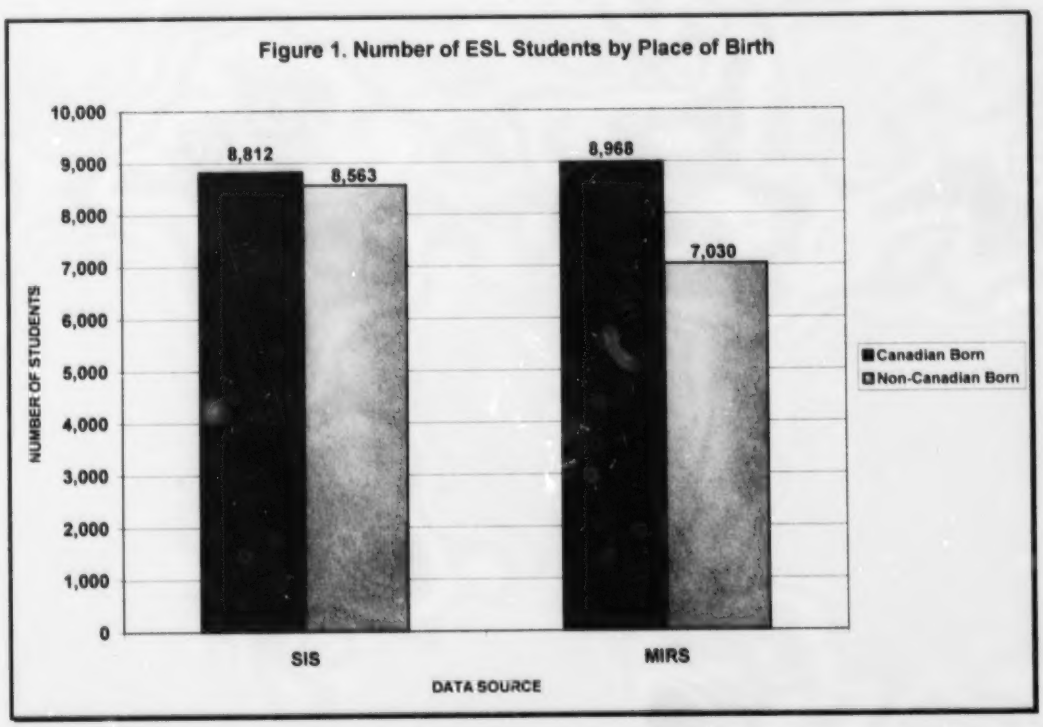
English as a Second Language Funding

The purpose of the English as a Second Language (ESL) funding is to assist Canadian-born and non Canadian-born ESL students in grades 1-12 in meeting grade level standards in English Language Arts. Total allocated funding for ESL for 1999/2000 was $12,673,301.

The following analysis of ESL funding looks at student enrolment, achievement results for 1999/2000 and a comparison of results from the 1998/1999 school year with the results from the 1999/2000 school year.

Enrolment

The number of Canadian-born ESL students ranged from 8,812 as reported in the Student Information System (SIS) to 8,968 as reported by MIRS. The number of non-Canadian born students ranged from 8,563 as reported in the SIS to 7,030 as reported by MIRS. The average cost of providing ESL instruction to Canadian-born and non Canadian-born students in 1999/2000, based on data provided by the School Reporting Branch, was $667 per student.



Achievement Results for the 1999/2000 School Year

The framework for judging ESL students' achievement is in Appendix A: Worksheet for Schedule 8. Reported achievement has been categorized into four areas. These results are presented in Figure 2.

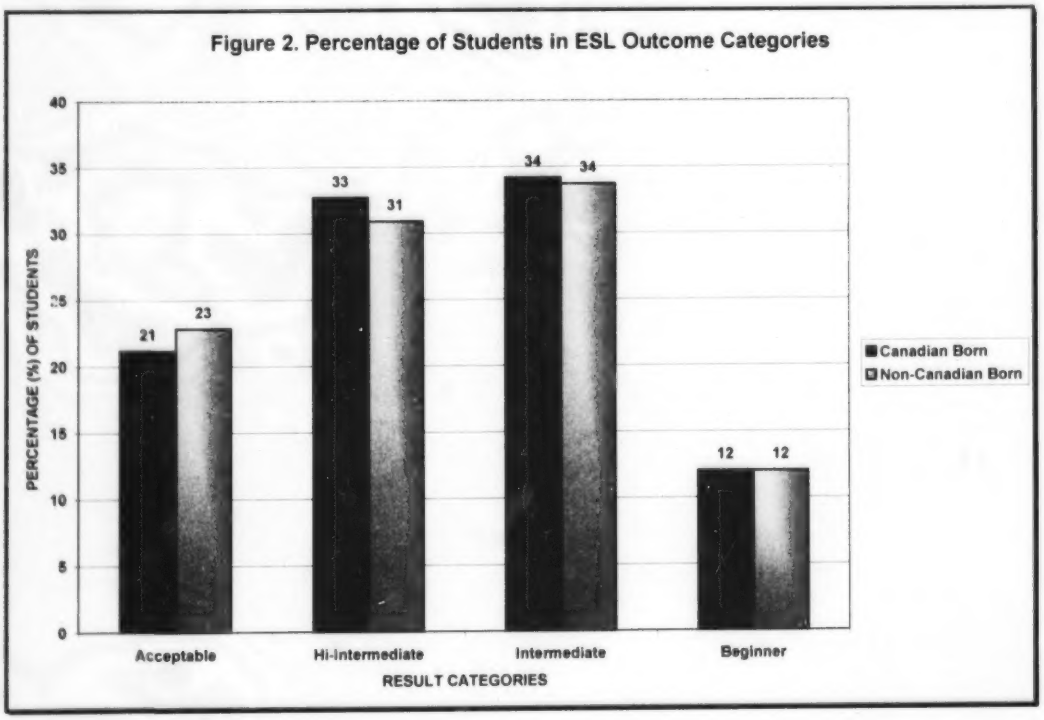
1. Acceptable Standard: The student demonstrates skills in listening, speaking, reading and writing in English Language Arts that are at the acceptable standard for the expected grade level.

2. High Intermediate: The student demonstrates skills in listening, speaking and reading skills that are at the expected grade level and writing skills that are below the expected grade level.

3. Intermediate: The student demonstrates listening and speaking skills that are at the expected grade level and reading and writing skills that are below the expected grade level.

4. Below Standard: The student demonstrates little or no skills in listening, speaking, reading and writing using English language arts materials that are below the expected grade level.

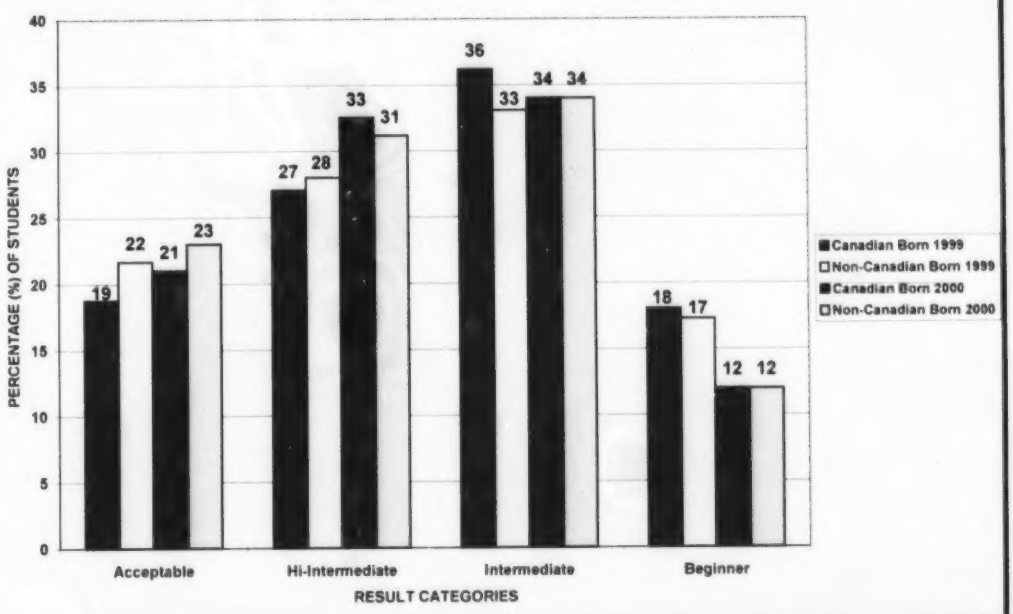
Figure 2. Percentage of Students in ESL Outcome Categories



Results Comparison: 1998/1999 and 1999/2000

Results for ESL student achievement as reported in MIRS were compared from 1998/1999 to 1999/2000. This comparison is presented in Figure 3. The same categories that were used for Figure 2 are used for this chart: Acceptable Standard, High Intermediate, Intermediate and Below Standard.

Figure 3. Percentage of ESL Students in Result Categories for 1999 & 2000



Analysis

Fifty-seven of 60 jurisdictions submitted the MIR Schedule 8 on time to be included in this report.

Student results reported are more or less normally distributed for both Canadian-born and non Canadian-born ESL students.

The range in the enrolment numbers for non-Canadian born ESL students reported between SIS and MIRS contributes to the observation that quality controls are necessary for the data that Alberta Learning collects from school boards (Figure 1, page 3).

The ESL results information (Figure 2, page 4) does have some utility as an overall indicator of program success. When Schedule 8 was prepared, the outcome categories were carefully defined so as to be mutually exclusive and to be easily understood by respondents. As well, calculation worksheets and an explanation of the provincial reporting framework were provided (see Appendix A, page 29), which were intended to ensure a degree of reliability of reported results.

Comparison of the distribution of student results from 1998/1999 to 1999/2000 (Figure 3, page 5) suggests a positive shift in ESL student achievement for both Canadian-born students and for non Canadian-born students. However, because the MIRS data is ordinal with consequent limitations on tests of significance, some caution should be exercised in concluding if this difference is real or due to chance or measurement error.

Technology Integration Funding

The purpose of the Technology Integration Funding (TIF) is to place as much computer technology as possible into Alberta classrooms to enhance student learning. TIF data from the 1996-1998 and 1998/1999 MIRS compared to the 1999/2000 data is presented in Table 1. The data on eligible expenditures represents spending on computer hardware or software by school boards inclusive of provincial TIF grants and matching school board dollars.

Table 1. Technology Integration Fund-Comparisons-1996-98, 1998/99 and 1999/2000

	1996-98	1998/99	1999/2000
Expenditures	**$84,054,000**	**$49,000,000**	**$35,367,000**
Number of Computers Purchased or Modernized	**34,234**	**21,882**	**17,279**
Total N Modern Computers	**57,315**	**70,667**	**81,527**
Students:Computers Ratio	**8.67:1**	**7.84:1**	**6.71:1**

Note: the first MIR TIF Schedule collected data for two fiscal years, 1996-97 and 1997-98; the 1998-99 period was for April 1, 1998 to August 31, 1999; and the 1999-2000 period was from September 1, 1999 to August 31, 2000.

School boards reported a total of $35.4 million dollars spent on Total Technology Integration expenditures between September 1, 1999 and August 31, 2000. This resulted in 17,279 computers being purchased/modernized. In total, there were 81,527 modern computers as of August 31,2000 in Alberta schools; a 15.4% increase over 1999 and a 42.2% increase over 1998.

The overall student-to-modern classroom computer ratio was reported in 1998/1999 to be 7.84:1 and in 1999/2000 was 6.71:1.

Analysis

The long-term effects of the investment in technology in schools is beginning to be apparent in the MIR TIF data as evidenced by the increasing numbers of computers available in schools and the improving student-to-computer ratio. However, it is important to stress that technology purchases and upgrades are a means to support implementation of the Information and Communication Technology (ICT) curriculum. The ICT curriculum can best be evaluated through assessment of student performance outcomes.[1]

Schedule 12 does not measure student outcomes, and appears to be effective in meeting the limited scope of measuring computer technology resources purchased.

[1] The System Improvement and Reporting Division currently has five projects underway or planned that are investigating various aspects of the relationship between education technology and student learning. Contact the SIR ADM office for further information @ (780) 422-8671 or email sig@gov.ab.ca

Special Education

Funding for students with mild/moderate disabilities and those who are gifted and talented is included in Basic Instruction funding provided to school boards, charter schools and private schools. Funding for students with severe needs was provided on a per student basis in 1999/2000.

MIR Schedule 9 was intended to collect data on resource inputs and student outcome data for only those students with special needs who did not write the PATs. Schedule 9 data provides a basis to estimate more completely the extent to which special needs funds are used to support programs for students to improve their levels of achievement. A parallel analysis was conducted with PAT data for students with special needs who wrote the PATs (see pages 20 - 23). In addition, a very preliminary analysis was initiated, based on Pearson's r coefficients, of the relationship between per student expenditures and composite measures of student results achieved.

Special Education information is provided in the following sections:

- numbers of staff
- enrolment numbers
- MIRS reported achievement
- the relationship between staffing and costs
- reports on the PAT results
- student achievement relationship with cost
- relating MIRS and PAT achievement data
- incidence of students with special needs by jurisdiction
- analysis.

Numbers of Staff

Tables 2a and 2b show staffing data reported on the MIR Schedule 9 by presenting the numbers in full-time equivalents (FTEs), for teachers, teaching assistants and support staff. Specialists acting in staff or contracted positions (e.g., psychologists, behavioural specialists, special needs coordinators, etc.) are considered support staff. Table 2a reports on numbers of staff for students with mild/moderate and Table 2b for students with severe disabilities. The percent of staff FTEs by category is presented graphically in Figure 4.

Table 2a. Number of Jurisdiction FTEs for Human/Physical Resources - MILD/MODERATE

	Teachers	Teaching Assistants	Support Staff	Total
Average FTEs	31	30	5	66
Std. Deviation	65	37	9	106
Minimum	0	3	0	3
Maximum	375	252	52	679
Total FTEs	1,787	1,710	269	3,767
Percentage	47.4	45.4	7.2	100

Note: 57 out of 60 Jurisdictions Reporting (95%)

Table 2b. Number of Jurisdiction FTEs for Human/Physical Resources - SEVERE

	Teachers	Teaching Assistants	Support Staff	Total
Average FTEs	13	55	5	73
Std. Deviation	29	54	9	86
Minimum	0	1	0	1
Maximum	199	278	49	494
Total FTEs	744	3,160	265	4,169
Percentage	17.8	75.8	6.4	100

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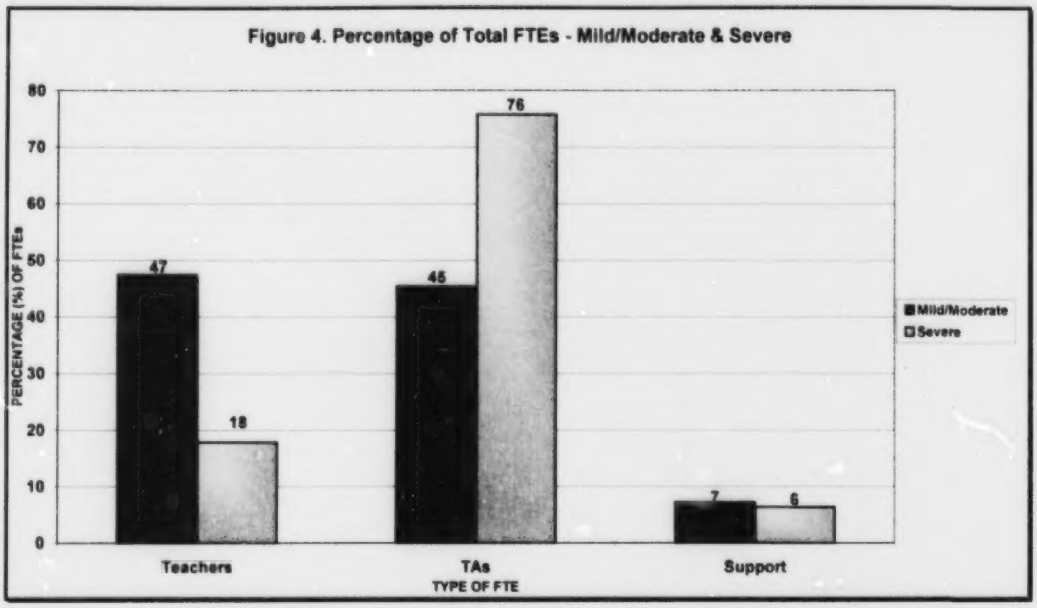


Figure 4. Percentage of Total FTEs - Mild/Moderate & Severe
80
70
60
50
40
30
20
10
0
PERCENTAGE (%) OF FTEs
47
18
45
76
7
6
Teachers
TAs
Support
TYPE OF FTE
Mild/Moderate
Severe

Enrolment

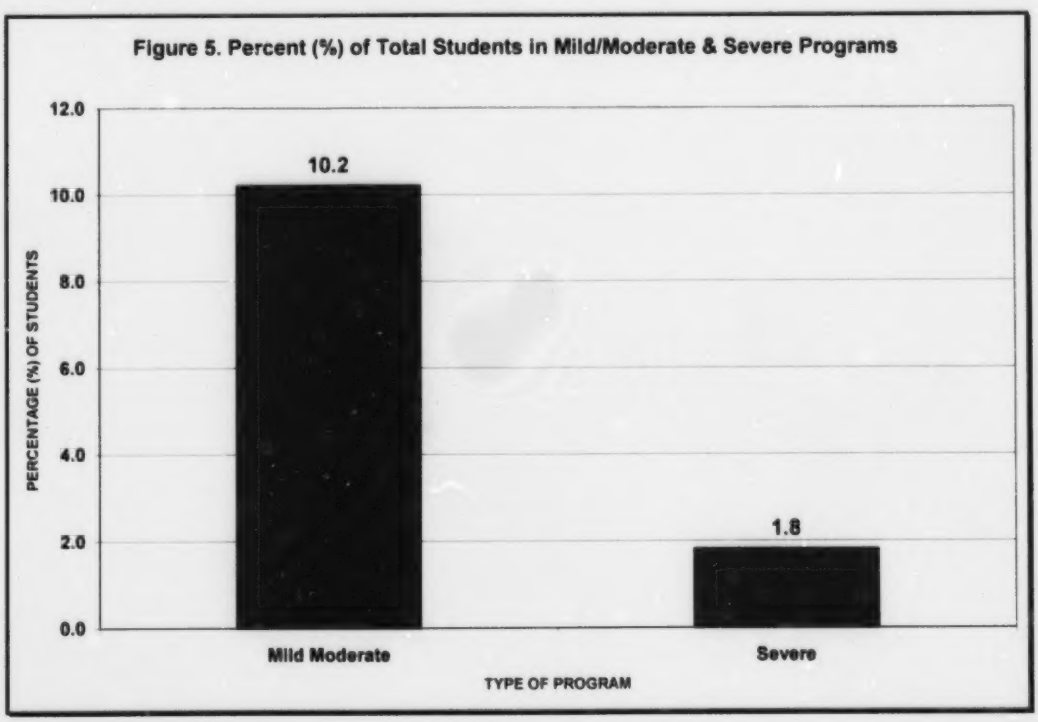
The School Reporting Branch provided descriptive statistics for the numbers of students with special needs. Table 3 shows the number of students with special needs by jurisdiction.

Table 3. Number of Students with Special Needs by Jurisdiction

	Mild/Moderate	Severe	M/M & Severe	ESL	Total Students*
Average	839	152	991	305	8,242
Std. Deviation	1,309	288	1,597	1,083	15,460
Minimum	43	2	45	5	231
Maximum	8,432	1,889	10,321	7,923	92,594
Total Special Needs	50,310	9,106	59,416	17,375	494,546
Percentage	10.2	1.8	12.0	3.5	

*Data for school boards only

The percentages of students categorized as having mild/moderate or severe special needs are displayed in Figure 5.



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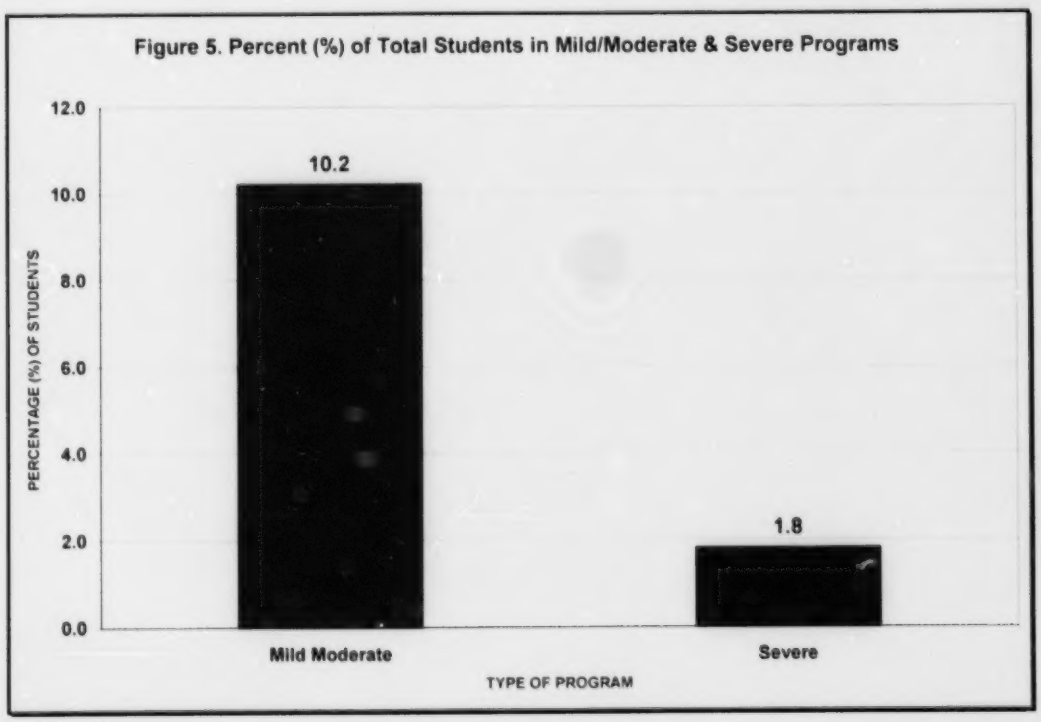

MIRS Reported Achievement for Students with Mild/Moderate Disabilities

Results for students with mild/moderate disabilities in grades 3, 6 or 9 as reported by MIR Schedule 9 were aggregated across grades for jurisdiction totals and are reported for Language Arts in Table 4a and for Mathematics in Table 4b. Grade level achievement for grades 3, 6 and 9 are presented on pages 15 and 16.

Table 4a. Number of Students in MIRS Results Catagories - Mild/Moderate LA

	Excellent	Improved	No Improvement	Total Assessed
Average	5	40	3	49
Std. Deviation	9	92	9	101
Minimum	0	0	0	0
Maximum	42	583	63	597
Sum	289	2,215	175	2,679
Percentage	10.8	82.7	6.5	100

Note 55 out of 60 Jurisdictions Reporting (92%)

Table 4b. Number of Students in MIRS Results Catagories - Mild/Moderate Math

	Excellent	Improved	No Improvement	Total Assessed
Average	6	34	4	44
Std. Deviation	9	57	10	70
Minimum	0	0	0	0
Maximum	36	362	71	458
Sum	308	1,814	201	2,323
Percentage	13.3	78.1	8.6	100

Note 53 out of 60 Jurisdictions Reporting (88%)

The student results data reported above are presented as the percentage of students in each results category for Language Arts and Mathematics in Figure 6. The results are defined in this way:

Excellent - Students with mild/moderate disabilities who met the expectations for their grade level by the end of the school year.

Improved - Students with mild/moderate disabilities who improved but did not meet expectations for their grade level by the end of the school year.

No Improvement - Students with mild/moderate disabilities who did not improve or who regressed in relation to the expectations for their grade level by the end of the school year.

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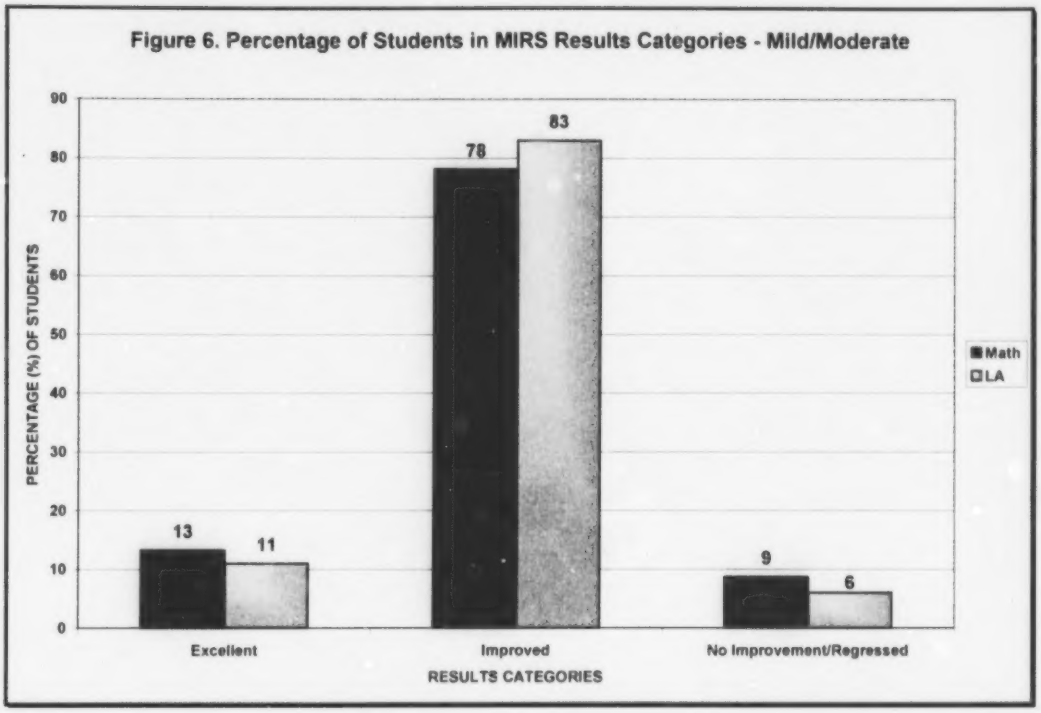
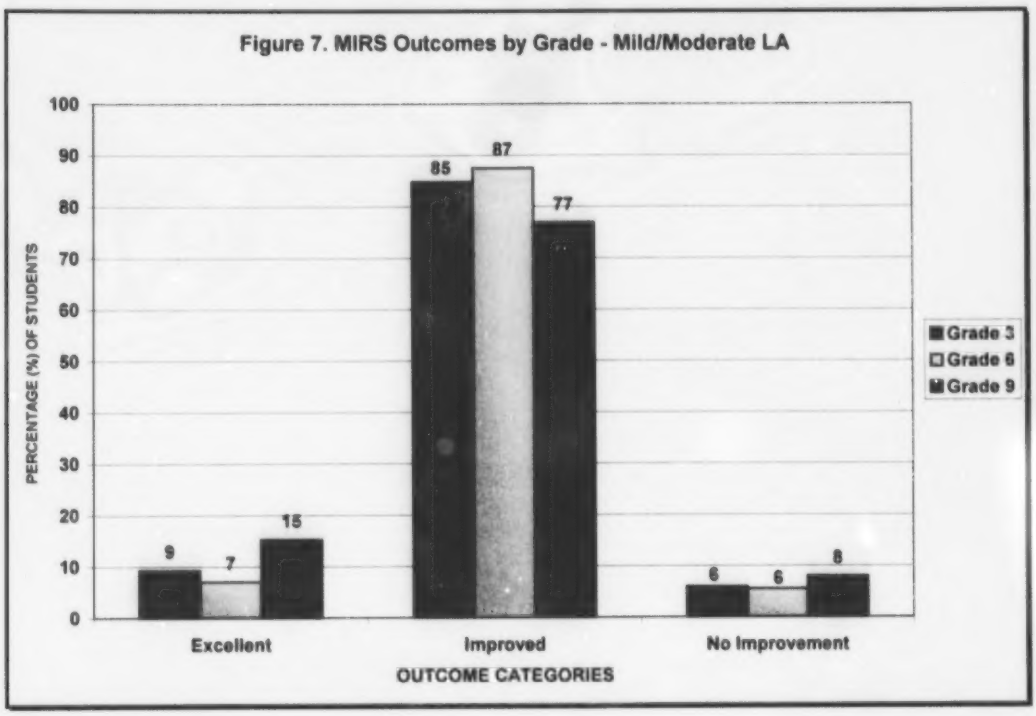


Figure 6. Percentage of Students in MIRS Results Categories - Mild/Moderate
PERCENTAGE (%) OF STUDENTS
90
80
70
60
50
40
30
20
10
0
13
11
78
83
9
6
Excellent
Improved
No Improvement/Regressed
RESULTS CATEGORIES
Math
LA

Grade level results for students in grades 3, 6 and 9 or in the third, sixth or ninth year of schooling as reported by MIR Schedule 9 are detailed further below for Language Arts (Figure 7) and Mathematics (Figure 8).



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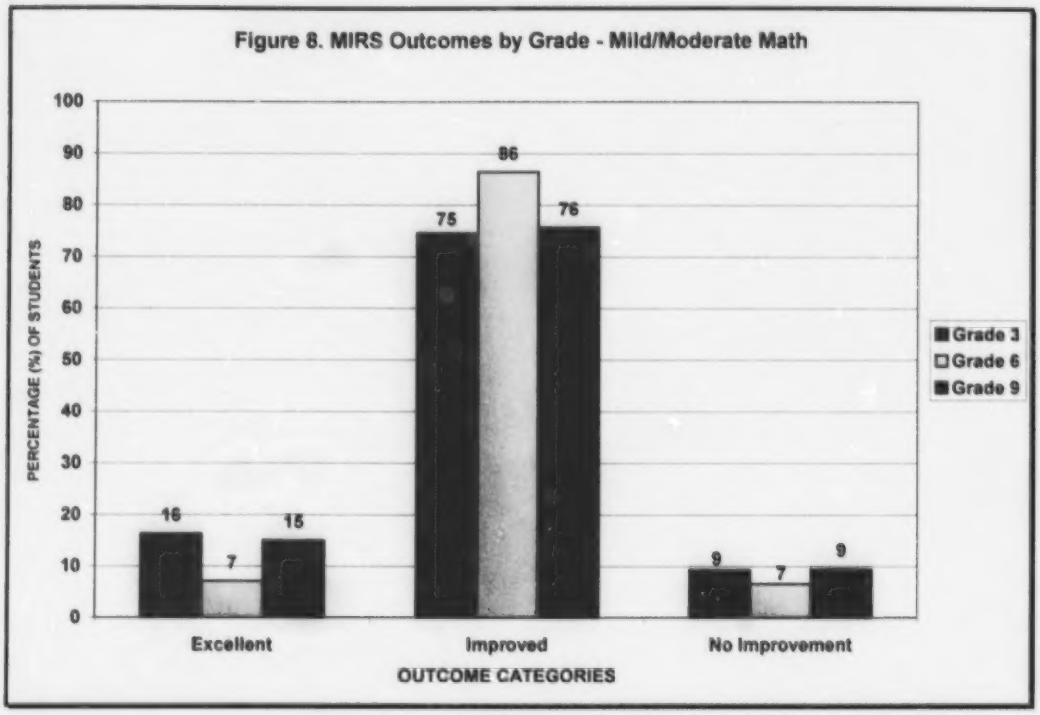

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MIRS Reported Achievement for Students with Severe Disabilities

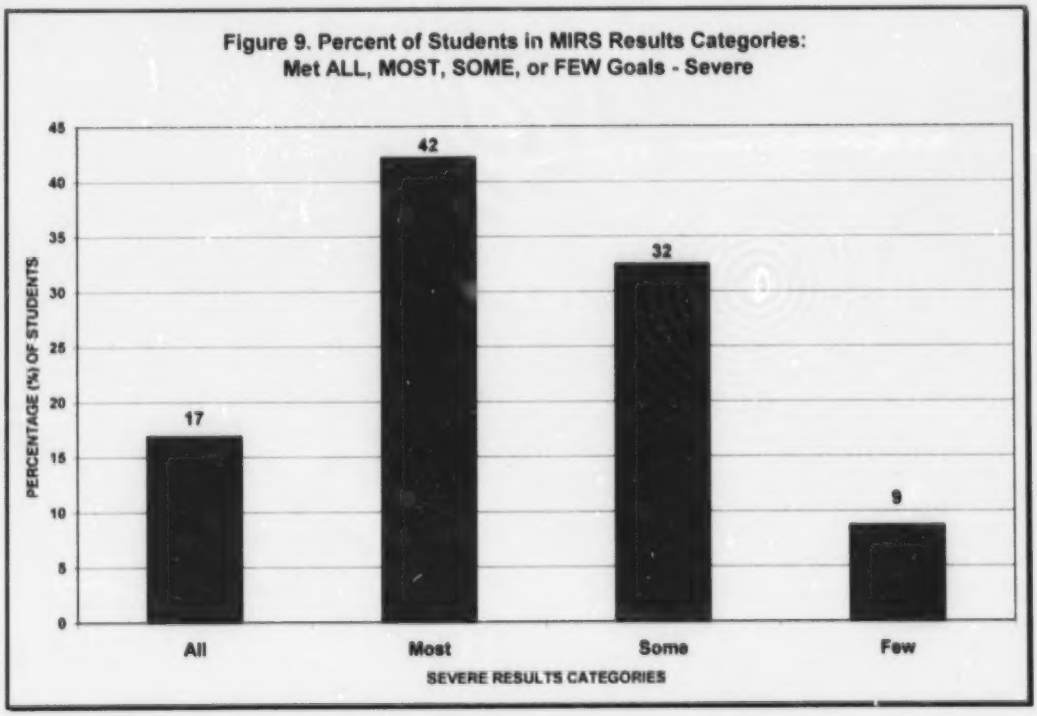
Language Arts results for students with severe disabilities, as reported by MIR Schedule 9, are reported in Table 4c by recording the percentage of Individualized Program Plan (IPP) goals that were achieved.

Grade level data is aggregated in Table 4c and Figure 9 to demonstrate overall levels of achievement, and IPP results by grade level are presented in Figure 10.

Table 4c. Number of Students in MIRS Results Catagories - Severe LA

	ALL Goals	MOST Goals	SOME Goals	FEW Goals	Total Assessed
Average	4	10	8	2	25
Std. Deviation	11	17	18	6	50
Minimum	0	0	0	0	0
Maximum	68	99	119	39	325
Sum	230	576	443	118	1,367
Percentage	16.8	42.2	32.4	8.6	100

Note: 55 out of 60 Jurisdictions Reporting (92%)



The above data is disaggregated by grade level in Figure 10.

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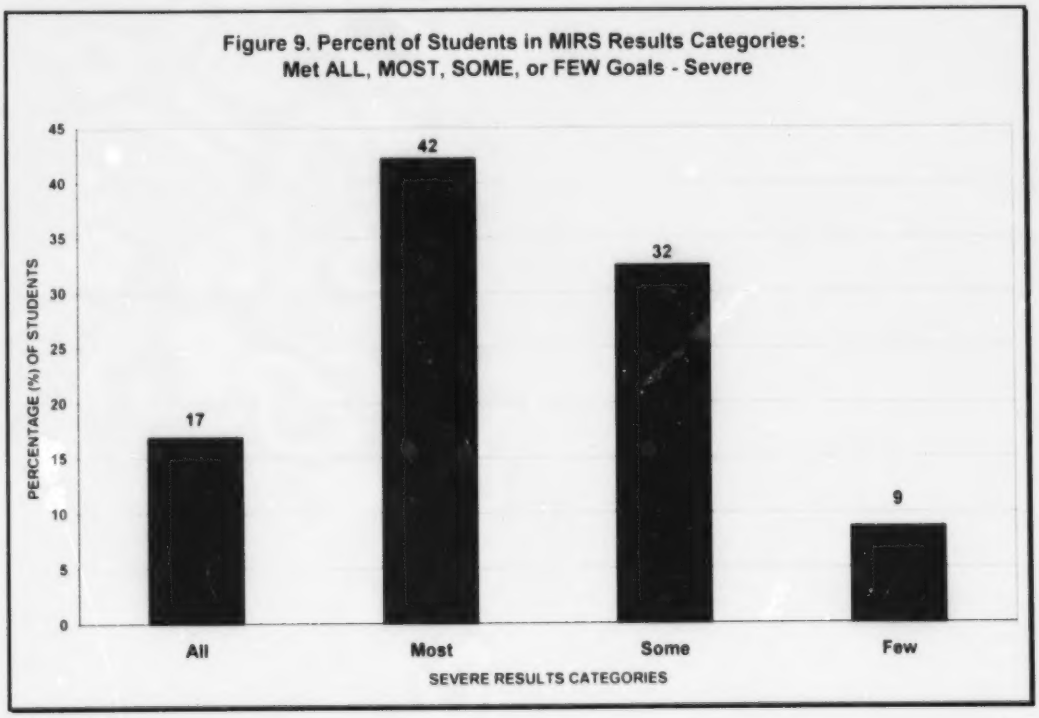
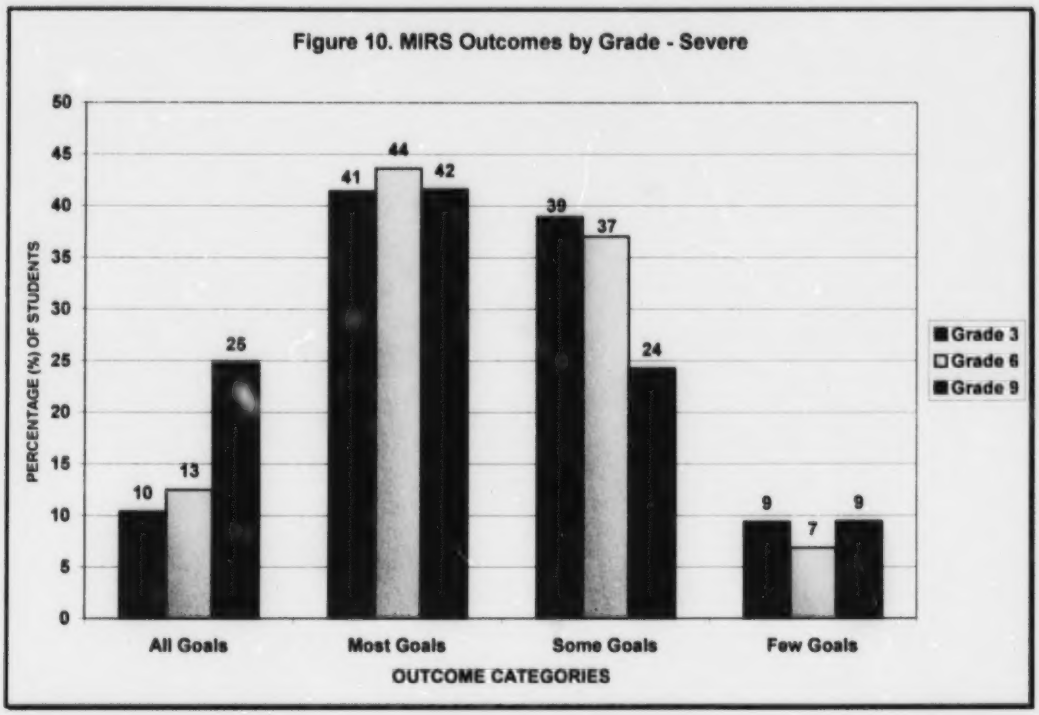
	ALL Goals	MOST Goals	SOME Goals	FEW Goals	Total Assessed
Average	**4**	**10**	**8**	**2**	**25**
Std. Deviation	**11**	**17**	**18**	**6**	**50**
Minimum	**0**	**0**	**0**	**0**	**0**
Maximum	**68**	**99**	**119**	**39**	**325**
Sum	**230**	**576**	**443**	**118**	**1,367**
Percentage	**16.8**	**42.2**	**32.4**	**8.6**	**100**

Note: 55 out of 60 Jurisdictions Reporting (92%)



The above data is disaggregated by grade level in Figure 10.



The Relationship Between Staffing and Costs

As noted earlier in this report, the information gathered by the MIRS and by the School Reporting Branch do not always align to the degree expected. The following analysis was done to determine the reliability of the MIRS reported staffing data with fiscal data provided by the School Reporting Branch. This analysis was completed by determining the degree to which the two sets of data were related by using the most common measure of linear correlation – the Pearson Product Moment Correlation (Pearson's 'r').

The relationship between the allocation of staff FTEs and expenditures for students with mild/moderate or severe disabilities are presented in Tables 5a and 5b. All of the relationships reported are significant at the .001 level. The shaded cells represent similar items, e.g., certificated expenses with the number of FTE teachers or uncertificated staff expenses with FTE teacher assistants, etc.

Table 5a. Pearson Correlations: Expenses by FTEs - Mild/Moderate

	1	2	3	4	5	6	7	8
1. Certificated Expenses - Mild Moderate	1							
2. Teacher FTE - Mild-Moderate	0.98	1						
3. Uncertifcated Expenses - Mild Moderate	0.91	0.87	1					
4. TA FTE - Mild Moderate	0.83	0.87	0.78	1				
5. Services, Contracts & Supplies - Mild Moderate	0.97	0.93	0.93	0.81	1			
6. Support FTE - Mild-Moderate	0.79	0.80	0.74	0.82	0.79	1		
7. Total Expenses - Mild Moderate	1.00	0.97	0.94	0.83	0.98	0.79	1	
8. Total FTEs - Mild Moderate	0.95	0.98	0.87	0.95	0.92	0.86	0.95	1

Note *ALL Pearson 'r' Correlations are Significant at the 0.01 level (2-tailed)

Table 5b. Pearson Correlations: Expenses by FTEs - Severe

	1	2	3	4	5	6	7	8
1. Certificated Expenses - Severe	1							
2. Teacher FTE - Severe	0.97	1						
3. Uncertifcated Expenses - Severe	0.55	0.49	1					
4. TA FTE - Severe	0.79	0.78	0.84	1				
5. Services, Contracts & Supplies - Severe	0.62	0.58	0.90	0.74	1			
6. Support FTE - Severe	0.88	0.93	0.61	0.84	0.67	1		
7. Total Expenses - Severe	0.88	0.83	0.87	0.91	0.89	0.85	1	
8. Total FTEs - Severe	0.91	0.91	0.75	0.97	0.72	0.93	0.93	1

Note *ALL Pearson 'r' Correlations are Significant at the 0.01 level (2-tailed)

Costs per student, for both mild/moderate and severe categories, were calculated based on data provided by the School Reporting Branch. These costs are presented in Table 6. Cost per student for mild/moderate ranges $8,691 across jurisdictions. Cost per student for severe ranges $28,438 across jurisdictions.

Table 6. Cost Per Student - Mild/Moderate & Severe

	Mild/Moderate	Severe
Average	**$2,462**	**$15,099**
Std. Deviation	**$1,389**	**$5,459**
Minimum	**$94**	**$9,246**
Maximum	**$8,785**	**$37,684**

Note: 60 out of 60 Jurisdictions Reporting (100%)

A parallel analysis to the MIRS reported student results data was conducted using the PATs data for students with mild/moderate and severe disabilities who wrote these tests. The results of this analysis, aggregated across grades 3, 6 and 9 to provide a composite picture of students with special needs achievement levels are reported in Tables 7a, 7b and 7c. This same data disaggregated by grade level is presented on pages 22 and 23.

Table 5a. Pearson Correlations: Expenses by FTEs - Mild/Moderate

	1	2	3	4	5	6	7	8
1. Certificated Expenses - Mild Moderate	1							
2. Teacher FTE - Mild-Moderate	0.98	1						
3. Uncertifcated Expenses - Mild Moderate	0.91	0.87	1					
4. TA FTE - Mild Moderate	0.83	0.87	0.78	1				
5. Services, Contracts & Supplies - Mild Moderate	0.97	0.93	0.93	0.81	1			
6. Support FTE - Mild-Moderate	0.79	0.80	0.74	0.82	0.79	1		
7. Total Expenses - Mild Moderate	1.00	0.97	0.94	0.83	0.98	0.79	1	
8. Total FTEs - Mild Moderate	0.95	0.98	0.87	0.95	0.92	0.86	0.95	1

Note: * All Pearson r Correlations are Significant at the 0.01 level (2-tailed)

Table 5b. Pearson Correlations: Expenses by FTEs - Severe

	1	2	3	4	5	6	7	8
1. Certificated Expenses - Severe	1							
2. Teacher FTE - Severe	0.97	1						
3. Uncertifcated Expenses - Severe	0.55	0.49	1					
4. TA FTE - Severe	0.79	0.78	0.84	1				
5. Services, Contracts & Supplies - Severe	0.62	0.58	0.90	0.74	1			
6. Support FTE - Severe	0.88	0.93	0.61	0.84	0.67	1		
7. Total Expenses - Severe	0.88	0.83	0.87	0.91	0.89	0.85	1	
8. Total FTEs - Severe	0.91	0.91	0.75	0.97	0.72	0.93	0.93	1

Note: * All Pearson r Correlations are Significant at the 0.01 level (2-tailed)

Costs per student, for both mild/moderate and severe categories, were calculated based on data provided by the School Reporting Branch. These costs are presented in Table 6. Cost per student for mild/moderate ranges $8,691 across jurisdictions. Cost per student for severe ranges $28,438 across jurisdictions.

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A parallel analysis to the MIRS reported student results data was conducted using the PATs data for students with mild/moderate and severe disabilities who wrote these tests. The results of this analysis, aggregated across grades 3, 6 and 9 to provide a composite picture of students with special needs achievement levels are reported in Tables 7a, 7b and 7c. This same data disaggregated by grade level is presented on pages 22 and 23.

Table 7a. Number of Students in PAT Results Categories - LA - Mild/Moderate

	Acceptable	Excellent	Total
N Jurisdictions	60 (100%)	53 (88%)	60 (100%)
Average	133	8	190
Std. Deviation	179	16	260
Minimum	4	1	5
Maximum	1,253	113	1,733
Sum	8,000	444	11,426
Percentage	70	4	

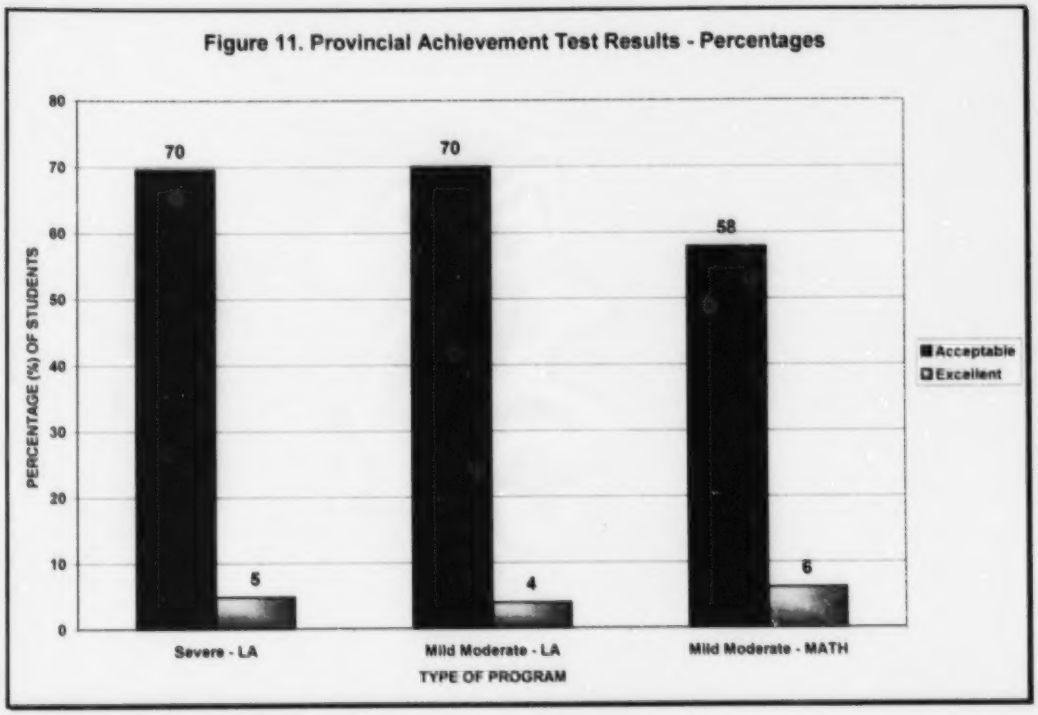
Table 7b. Number of Students in PAT Results Categories - Math - Mild/Moderate

	Acceptable	Excellent	Total
N Jurisdictions	57 (95%)	55 (92%)	57 (95%)
Average	112	12	193
Std. Deviation	138	17	254
Minimum	13	1	28
Maximum	909	103	1,669
Sum	6,377	677	11,019
Percentage	58	6	

Table 7c. Number of Students in MIRS Results Categories - LA - SEVERE

	Acceptable	Excellent	Total
N Jurisdictions	56 (93%)	30 (50%)	57 (95%)
Average	16.04	2.07	22.65
Std. Deviation	24.48	1.89	35.34
Minimum	1	1	1
Maximum	149	10	211
Sum	898	62	1,291
Percentage	70	5	

The above reported student results data from Tables 7a – 7c are presented graphically in Figure 11.



The data in Figure 11 is disaggregated by grade level and is presented in Figures 12, 13 and 14.

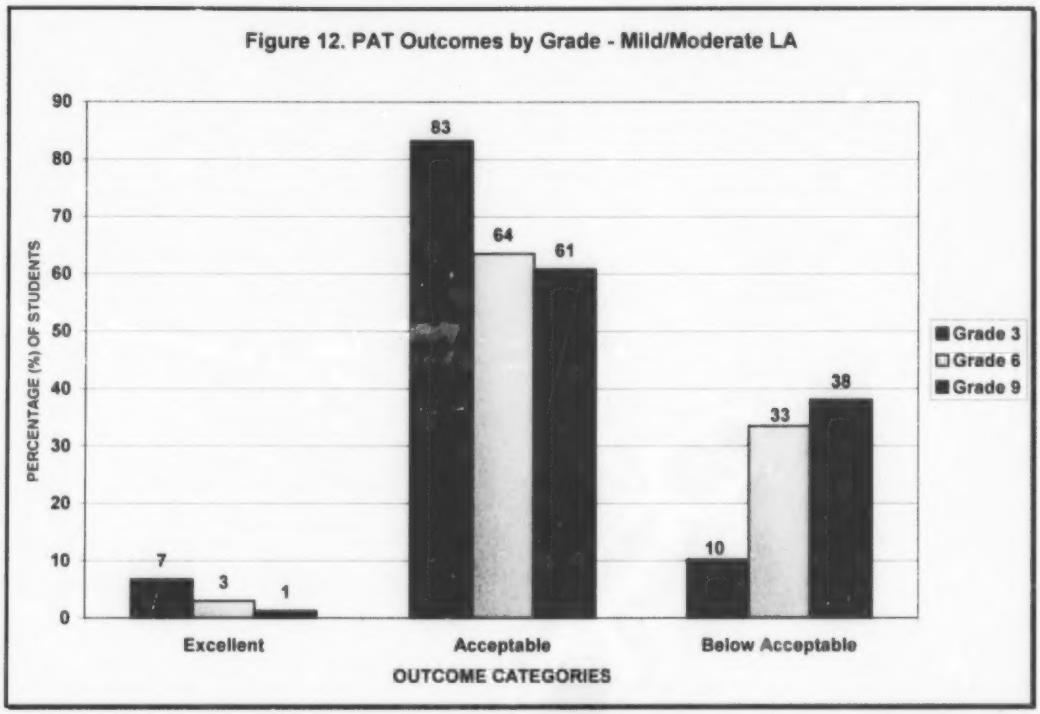


Figure 12. PAT Outcomes by Grade - Mild/Moderate LA
PERCENTAGE (%) OF STUDENTS
90
80
70
60
50
40
30
20
10
0
7
3
1
83
64
61
10
33
38
Excellent
Acceptable
Below Acceptable
OUTCOME CATEGORIES
Grade 3
Grade 6
Grade 9

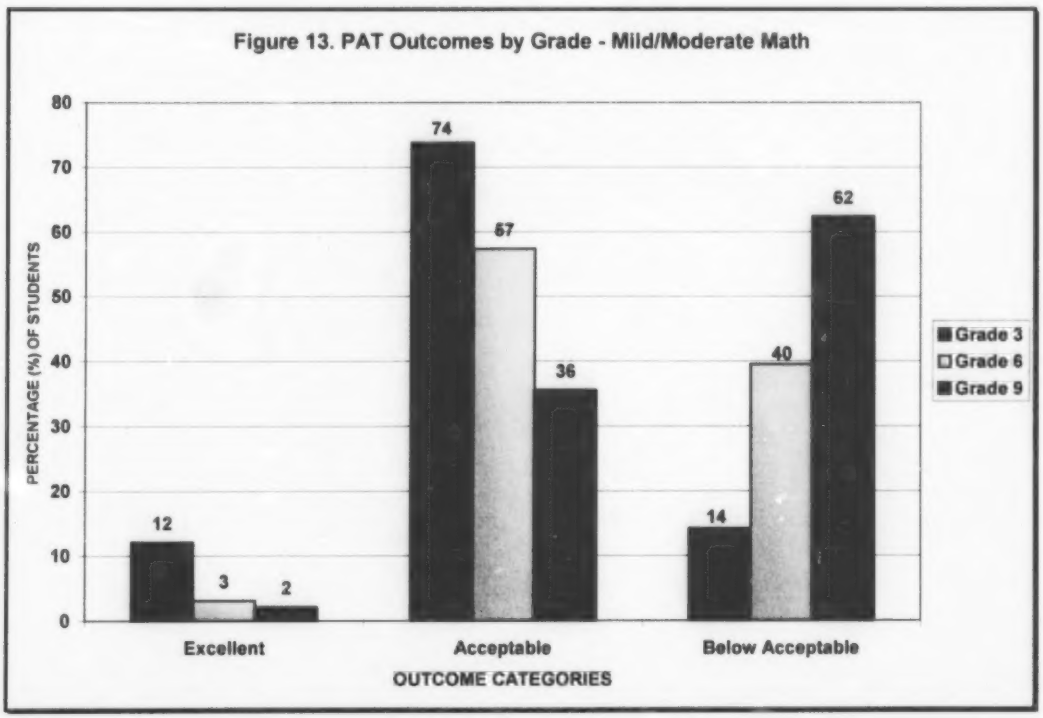
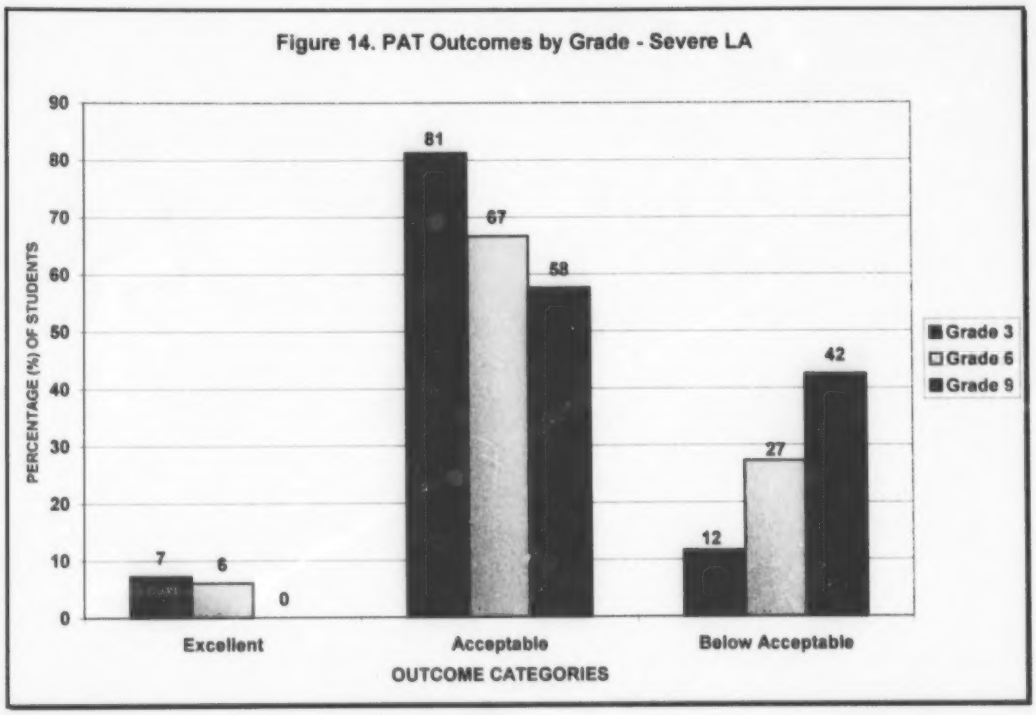


Figure 13. PAT Outcomes by Grade - Mild/Moderate Math
PERCENTAGE (%) OF STUDENTS
80
70
60
50
40
30
20
10
0
12
3
2
74
57
36
14
40
62
Excellent
Acceptable
Below Acceptable
OUTCOME CATEGORIES
Grade 3
Grade 6
Grade 9



The Relationship Between Student Achievement and Cost

The relationship between school jurisdiction expenditures for students with mild/moderate and severe disabilities, expressed as cost per student and a composite measure of student outcomes, as reported in MIRS and for the PAT results for students with special needs, were examined using Pearson's r.

The weighting formula for MIRS and PAT results for students with mild/moderate disabilities and PATs results for students with severe disabilities (who wrote the tests) may be expressed as the proportion of students who achieved: excellent/met expectations x 80 + acceptable/improved but did not meet expectations x 50 + below acceptable/did not improve or regressed x 30.

The weighting formula for students with severe disabilities reported on MIRS was the proportion of students who: met all IPP goals x 80 + met most IPP goals x 60 + met some IPP goals x 40 + met few, if any IPP goals x 20.

These weighting formulas yielded a proportional measure of achievement for each jurisdiction. The distributions of these composite variables approximated normality, which supported the use of Pearson's r. Composite scores ranged from 20 to 80 for MIRS students with severe disabilities and 30 to 80 for students with mild/moderate disabilities and students with severe disabilities PAT results. These relationships are reported in Tables 8a and 8b.

Table 8a. Pearson ppm Correlations: Cost per Student and Student Results - Mild/Moderate

	1	2	3	4	5
1. Cost per Student - MM	1				
2. MIRS LA Composite Score	-0.08	1			
3. MIRS Math Composite Score	-0.07	0.64	1		
4. PATs LA Composite Score	0.22	0.06	0.16	1	
5. PATs Math Composite Score	0.21	0.29	0.24	0.81	1

Correlation is significant at the .05 level (2-tailed).

Table 8b. Pearson ppm Correlations: Cost per Student and Student Results - Severe

	1	2	3
1. Cost per Student - Severe	1		
2. MIRS Composite Score	-0.07	1	
3. PATs Composite Score	-0.09	0.09	1

No correlations are significant at the .05 level (2-tailed)

Table 8a. Pearson ppm Correlations: Cost per Student and Student Results - Mild/Moderate

	1	2	3	4	5
1. Cost per Student - MM	1				
2. MIRS LA Composite Score	-0.08	1			
3. MIRS Math Composite Score	-0.07	0.64	1		
4. PATs LA Composite Score	0.22	0.06	0.16	1	
5. PATs Math Composite Score	0.21	0.29	0.24	0.81	1

Correlation is significant at the .05 level (2-tailed).

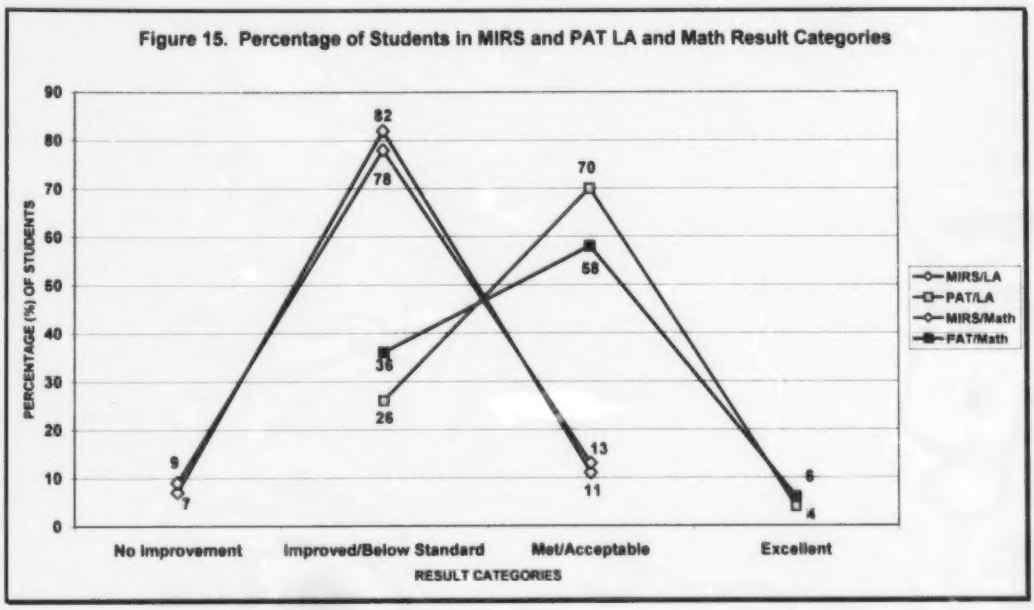
Table 8b. Pearson ppm Correlations: Cost per Student and Student Results - Severe

	1	2	3
1. Cost per Student - Severe	1		
2. MIRS Composite Score	-0.07	1	
3. PATs Composite Score	-0.09	0.09	1

No correlations are significant at the .05 level (2-tailed).

Relating MIRS and PAT Achievement Data

The student results data reported in MIRS were compared with the student results data for those students with mild/moderate disabilities who wrote the PATs. This data is graphically presented in Figure 15.



Incidence of Students with Special Needs by Jurisdiction

An analysis of the incidence of students with mild/moderate and severe disabilities was calculated as a percentage of the total jurisdiction student population. The results of this analysis for students with mild/moderate disabilities are presented in Figure 16 and for students with severe disabilities in Figure 17.

Figure 16. Percentage of Students in Jurisdiction - Mild/Moderate by Population Categories

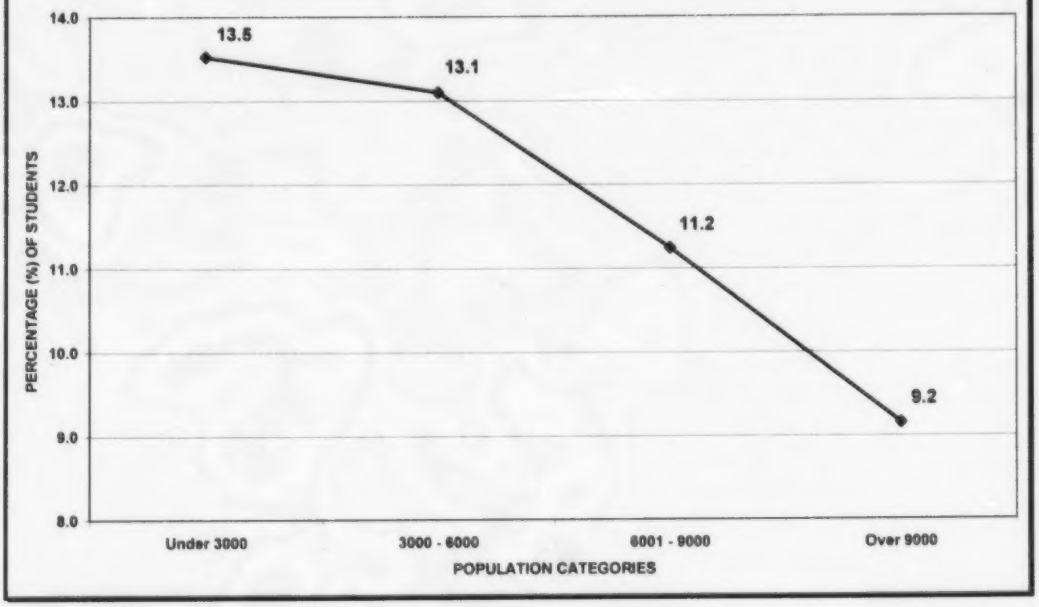
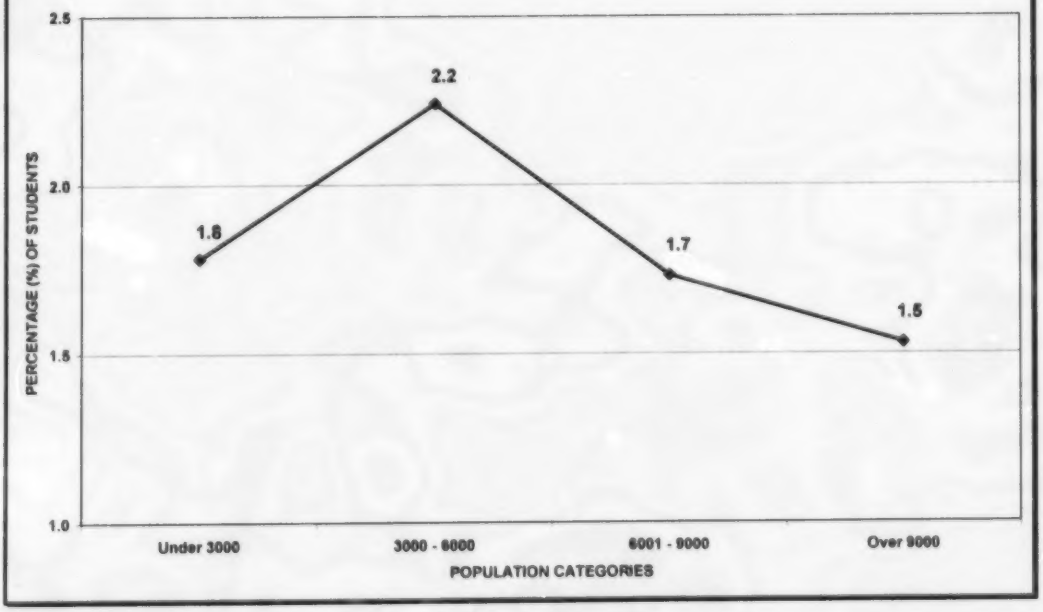


Figure 17. Percentage of Students in Jurisdiction - Severe by Population Categories



Analysis

Staffing data presented in Tables 2a and 2b and graphed in Figure 4 demonstrate that the majority of special education certificated teachers are allocated to students with mild/moderate versus students with severe disabilities whereas the converse is true for teacher assistants. Support staff resources are evenly allocated between the two classifications of students with special needs. These staffing patterns do not depart from prior expectations for this data and represent a reasonable allocation of special education staff resources.

The percentages of the grade 3, 6 and 9 student population categorized as mild/moderate (10.2%) or severe (1.8%) disabilities fall within the expected range.

Achievement results were reported via MIRS for grades 3, 6 or 9 students with mild/moderate disabilities who did not write the PATs.

The student results descriptors for mild/moderate students reported via MIRS were:

- the students met the acceptable standard for their grade level
- the students improved but did not meet the acceptable standard
- the students did not improve or regressed.

The student results descriptors for the PATs were:

- students did not meet the acceptable standard
- students met the acceptable standard
- students met the standard of excellence.

The descriptors for MIRS did not use the excellent standard because it was expected these students would write the PATs, hence the distributions were expected to be different.

The comparison of MIRS results with PATs results for students with mild/moderate disabilities (Figure 15) upheld this expectation. These results suggest that approximately 7,700 of approximately 125,000 (6.2%) grade 3, 6 and 9 students are at-risk students. This percentage would appear to have a direct relationship to the provincial early school leaver rate and underscores the importance of reaching these students to remove their barriers to learning. Further study of this phenomenon could identify and disseminate effective practices in meeting this group's learning needs.

The total numbers of students who wrote PATs or for whom results were reported on MIRS represent a subset of the total special needs population reported through the School Reporting Branch. It is assumed that the student results reported via MIRS and those special needs students who took the provincial achievement tests are a representative sample of the total population of students with special needs.

Student results data for mild/moderate students reported in MIRS show similar distributions for Math and Language Arts for both composite data and for data disaggregated by grade level. Student results data for students with severe disabilities reported in MIRS show a slightly skewed distribution for composite data. However, when disaggregated by grade level notably

there is a higher proportion of grade 9 students reported as achieving all goals on their Individualized Program Plans.

Student results data for mild/moderate disabilities and students with severe disabilities who wrote PATs results show that high proportions of these students achieve the acceptable standard especially in Language Arts, whereas small proportions achieve the standard of excellence. However, when the PAT data is analyzed by grade level, variances are quite pronounced with the highest grade-level variance in Math. A related concern exists with the increasing proportion of students achieving below the acceptable standard as grade level increases.

The highly significant ppm r coefficients between staff resources reported via MIRS and the cost data provided by the School Reporting Branch (Tables 5a and 5b) tend to support the reliability of the staffing resource data reported in MIR Schedule 9.

Cost per student data reported in Table 6 suggest that the costs of providing services for students with mild/moderate disabilities are being met within funding allocations, but that the costs of providing services to students with severe disabilities is taxing the 1999/2000 average funding level of $10,588. However, the range of costs per student across jurisdictions is large. The large variation in cost per student likely reflects the variation in student learning needs and the types of services being provided to these students. It should be noted that funding for students with severe disabilities, as projected in Alberta Learning's *Business Plan 1999-2000 to 2001-2002*, is increasing substantially.

The results of the correlation analysis of per student expenditures relationship to student results revealed no significant relationships. Some caution should be expressed regarding the amalgamation of data and this should be considered a preliminary analysis only. However, these results are consistent with other similar studies that reduce the independent variable to a single predictor. More refined multi-variate analysis based upon interval data for individual students would be required for a more valid approach to assessing these relationships – a future objective of Alberta Learning.

Overall, the student results reported herein provide useful benchmark data for school jurisdiction comparison, and should support intra-jurisdiction reviews of special education programs.

The analysis of the proportion of students with mild/moderate disabilities in relationship to total jurisdiction student enrolment demonstrates a surprising degree of variation. This variation supports the hypothesis that special needs programs differ markedly between schools within a given jurisdiction and between jurisdictions. The impact of different approaches to student diagnosis, identification procedures and program delivery cannot be determined via the MIRS framework. A field based, quasi-experimental evaluation design would be required to explain the reasons for the variation in incidence rates and/or to isolate the various approaches to diagnosis, identification and program design in relationship to results achieved. Furthermore, the School Reporting Branch should investigate specific jurisdiction incidence and/or cost anomalies where these are apparent.

Appendix A – Worksheet for Schedule 8
ESL Provincial Reporting Framework

(Do not submit worksheets to Alberta Learning)

ENGLISH AS A SECOND LANGUAGE PROGRAM

Please record the number of Canadian-born and non Canadian-born students in each part of the reporting grid below*. Teachers are encouraged to use the attached ESL Provincial Reporting Framework.

Canadian-born ESL Students

Levels of Performance	Number of Students at Entry into Program	Number of Students at End of Instruction or the School Year
Meets Acceptable Standard (AS)		
High Intermediate (HI)		
Intermediate (I)		
Beginner (B)		
TOTALS		

Non Canadian-born ESL Students

Levels of Performance	Number of Students at Entry into Program	Number of Students at End of Instruction or the School Year
Meets Acceptable Standard (AS)		
High Intermediate (HI)		
Intermediate (I)		
Beginner (B)		
TOTALS		

AS: The student demonstrates skills in **listening, speaking, reading and writing** in English language arts that are **at the acceptable standard for the expected grade level**.**

HI: The student demonstrates skills **in listening, speaking and reading** skills that are **at the expected grade level**** and **writing** skills that are **below the expected grade level**.**

I: The student demonstrates **listening and speaking** skills that are **at the expected grade level**** and **reading and writing** skills that are **below the expected grade level**.**

B: The student demonstrates little or no skills in **listening, speaking, reading and writing** using English language arts materials that are **below the expected grade level**.**

*Assessment of the student's level of achievement should be made by the teacher(s) who provide(s) the English as a Second Language instruction to the student. Assessment is based on the student's performance relative to the outcomes in the ***English Language Arts, Kindergarten to Grade 9 (1999); or, the Elementary Language Learning (1991); or, the English as a Second Language (Senior High) (1997)*** **Program of Studies** for the student's expected grade level.

**expected grade level means the grade level that corresponds to the student's chronological age and years in school.

Beginner (B)		Intermediate (I)		High Intermediate (HI)		Acceptable
Listening & Speaking						
Understands little or no English	Demonstrates some listening behaviour.	Follows simple instructions relying on visual input.	Follows instructions relying on aural and visual cues.			
Understands only slow simple speech	Watches and copies others for cues in following instructions.	Can follow routine classroom instructions.	Requires less elaboration of instruction.			
Vocabulary is limited to basic and survival areas.	Asks simple questions.	Asks questions for clarification.	Initiates and involves others in conversation.			
May not yet be able to read environmental print. Repeats phrases and songs without understanding.	Uses simple repetitions or memorized expressions.	Begins to develop basic communication skills: simple sentence, basic vocabulary, uses language literally.	Demonstrates increasing control and complexity of structure in communication.			
		Reading				
		Reads familiar words.	Reads and understands some sentences and sheet passages.	May read for information and enjoyment.		
		Recognizes and uses alphabetical order.	Uses a dictionary with help.	Asks a friend for word definitions.		
		Begins to use word analysis skills.	Uses context to predict meaning.	Demonstrates comprehension by making predictions, answering questions, drawing conclusion.		
			Writing			
			Uses a combination of correct inventive spelling.	Evidence of acquisition of spelling patterns although with errors.	Can self edit spelling with dictionary.	
			Writes simple sentences.	Uses some sentence variety such as interrogative and exclamation.	Writes for a variety of purposes.	
			Meaning is conveyed without grammatical accuracy.	Shows some control over grammatical accuracy.	Approximates native like command in some areas of grammar.	
			Participates in guided and group writing.	Can write a paragraph in narrative form with guided help.	Requires some guidance (modeling and intervention) with expository and descriptive writing in a variety of forms. e.g.: conducting a reporting of research. Personal style of writing is emerging.	
Cultural Awareness and Participation						
Only aware of one's own culture.		Aware of more than one culture.	Able to adapt to more than one culture.		Able to participate in more than one culture.	